BAKER & McKENZIE

Baker & McKenzie LLP
300 East Randolph Street, Suite 5000
Chicago, Illinois 60601, USA

Tel: +1 312 861 8000
Fax: +1 312 861 2899
www.bakermckenzie.com

June 28, 2012

John W. Watson
Tel: +1 312 861 2646
Fax: +1 312 698 2969
John.Watson@bakermckenzie.com

Via Email

Ms. Kasey Barton
U.S. Environmental Protection Agency
77 West Jackson Blvd.
Mail Code C-14J
Chicago, IL 60604-3507

RE: Peabody Midwest Mining, LLC – Bear Run Mine, Indiana
March 22, 2012 Clean Water Act Section 308 Request
Docket No. V-W-12-308-09

Dear Kasey:

Consistent with our discussions, enclosed you will find a revised Effluent Sampling Plan for Peabody Midwest Mining, LLC's ("PMM") Bear Run Mine submitted in response to U.S. EPA's Clean Water Act Section 308 Request for Information. As we have discussed, the revised Plan incorporates the Agency's request for additional effluent sampling of certain cations and anions and additional metals (aluminum and vanadium).

As documented in my letter of May 23, 2012 and subsequent email correspondence of June 7, 2012, U.S. EPA cannot support the breadth of the sampling requested of PMM and now incorporated in the PMM Plan. While I do not intend to repeat PMM's well documented legal and technical position on these issues, it is sufficient to restate that none of the requested additional sampling at issue in our recent discussions bears any relationship to the Agency's authority under the Clean Water Act, as expressly delegated to the Indiana Department of Environmental Management ("IDEM"), to regulate effluent discharges to ensure the attainment of established water quality standards. We understand that PMM's views on the Section 308 Request are shared by IDEM which, in Bruno Pigott's June 15, 2012 letter to Tinka Hyde, characterizes the Agency's actions here as, among other things, "overreaching" and "impractical, inefficient and unreasonable."

To be clear, PMM is unconcerned by the ultimate results of the data that will be generated through the Agency's mandated sampling. PMM has been through this exercise before and has reams of historical data on the nature and character of discharges associated with its operations. As you know, much of this information, including the results of extensive sampling and monitoring at Bear Run, was previously provided to U.S. EPA last Fall in response to your first Section 308 request for information. What PMM is very concerned about, however, is how U.S. EPA intends to use this data and whether it will be subjected to mischaracterization and distortion as a means to advance some ill-conceived Agency objective. One need look no further than the Agency's prior erroneous statements to the Indianapolis Star regarding water quality at Bear Run to justify PMM's skepticism here.

U.S. EPA's insistence on including aluminum in the parameters for effluent sampling under the Plan highlights well the nature of PMM's concerns. In the first instance, the Agency's request for aluminum sampling in the absence of established water quality standards in Indiana is fundamentally at odds with the intent, structure and application of the Clean Water Act both in Indiana and around the country. By mandating aluminum sampling at Bear Run, U.S. EPA has now achieved the wholly illogical result of requiring sampling for effluent discharges at Bear Run notwithstanding the fact that Alcoa operates an aluminum production plant in Newburgh, Warrick County, Indiana that has no effluent limits for aluminum.

Moreover, the Agency's defense of its request for aluminum sampling cites apparent concerns with possible exceedances of U.S. EPA established freshwater aquatic health criterion from 1988. There is little doubt that aluminum concentrations at Bear Run will likely exceed the Agency's 1988 guidance. Aluminum correlates well with total suspended solids and is found in effluent across southern Indiana's agricultural landscape – consistently at higher concentrations in areas uninfluenced by coal mining operations. At the same time, EPA's 1988 aluminum criterion has been established by both the scientific and regulatory community as being outdated and not reflective of existing science on aluminum toxicity in the aquatic environment.[1] The attached memorandum and supporting documentation from GEI Consultants explains the inherent, recognized flaws in the 1988 guidance and the technical basis for revised aluminum standards that have superceded the 1988 guidance and have been relied upon in numerous states in the implementation of their NPDES permit programs (with the approval of U.S. EPA).

It is unclear how U.S. EPA intends to utilize the result of the aluminum effluent sampling completed by PMM at the Bear Run Mine. To the extent the Agency is suggesting its 1988 guidance on aluminum is relevant to an analysis of water quality concerns, such a position is misplaced and contrary to established science and regulation. Similar regulatory limitations exist with respect to the use and reliance on cations and anions results, hence PMM's concerns over the potential mischaracterization and misuse of collected data that motivated our initial objections to this element of the proposed Effluent Sampling Plan.

[1] It is well understood that hardness plays a significant role in the toxicity of metals, including aluminum, and other effluent constituents. The existing aluminum criteria in U.S. EPA's 1988 guidance and other past studies and models, including the Mount STR Model, fail to properly account for hardness impacts and do not reflect current science. As such, they have no relevance for use by the Agency in any water quality assessments.

PMM expects that the results from the implementation of the agreed upon Effluent Sampling Plan will be the subject of discussion and dialogue among PMM and the Agency. By pointing out our issues and objections now, PMM hopes to avoid the stated concerns over the interpretation, regulatory significance and ultimate use of such data and information. By proceeding with the implementation of the proposed Plan, Peabody is making no admissions regarding the authority of U.S. EPA to request such sampling under Section 308 of the Clean Water Act and expressly reserves all rights and defenses, including its right to cease sampling at any time. Please call me should you have any questions regarding the attached Effluent Sampling Plan.

Sincerely,

John W. Watson

JWW/ac
Enclosure

cc: Mary Frontczak (w/encl.)

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APPENDIX A

June 28, 2012

Appendix A

EFFLUENT SAMPLING/BIOMONITORING ASSESSMENT PLAN

Pursuant to the Clean Water Act Section 308 Request for Information, dated March 22, 2012, Peabody Midwest Mining, LLC ("Peabody") has developed this Effluent Sampling/Biomonitoring Assessment Plan (the "Plan") for further monitoring, assessments and other studies in waters in and around the Bear Run Mine, including portions of the Busseron Creek, Black Creek, Indian Creek, and Maria Creek watersheds. As set forth herein, Peabody is proposing to conduct comprehensive effluent sampling of wastewater discharges from the Bear Run Mine, including sampling and analysis of chemical constituents far beyond the indicator effluent limits included in Peabody's NPDES permit and otherwise intended and promulgated under 40 CFR Part 434 and Indiana's Coal Mining NPDES permit requirements. Peabody is also proposing to complete additional biological assessment work to supplement the 14 fish, 53 macroinvertebrates and 2,344 stream physical habitat evaluations already conducted at Bear Run.

1. Effluent Sampling

Sample Locations

Peabody's Bear Run Mine proposes to sample a total of six outfalls reporting to the four watersheds (Black Creek, Busseron Creek, Indian Creek, and Maria Creek) that receive discharge from Bear Run Mine. Representative outfalls were selected based on two criteria: (1) the outfall's receiving watershed and (2) the type of mining related source water (drainage or pumpage) received, as established by the EPA 308 Information Request priority system. Mine drainage status (alkaline or undetermined) was not incorporated into the outfall criteria based on preliminary sampling results that indicate all previously undetermined outfalls are alkaline (a Notice of Intent has been submitted to IDEM to that effect for the remaining unclassified outfalls). The mining related source water priority designations are as follows:

- Coal Refuse: areas where fine coal refuse is exposed to storm water. Coarse coal refuse is returned to near the bottom of the active pit and covered by spoil. Fine coal refuse is sent to a slurry basin.

- Coal Storage: areas near the preparation plant that include raw coal storage, product coal, and coarse and fine refuse handling facilities.

- Active Mining: areas where topsoil, subsoil, and overburden have been removed. These include locations where soil stockpiles have been or are being established, and where soil stockpiles and overburden is exposed to storm water events.

- Reclamation: areas where spoil, subsoil, and topsoil have been replaced and vegetation has been established.

The selection process includes at least one representative outfall for each of the four watersheds receiving drainage from the Bear Run Mine affected area. One outfall was selected for each of the Indian Creek and Maria Creek Watersheds (053 and 058, respectively). Two outfalls were selected for the Black Creek watershed (18R reports to an unnamed tributary to Black Creek and 062 reports to Spencer Creek). Two outfalls were also selected for the Busseron Creek Watershed (03R reports to Buttermilk Creek and 044 reports to Middle Fork Creek). None of the active outfalls at the Bear Run Mine receive source water from coal refuse (Priority 1); Outfalls 044 and 062 receive source water from coal storage and coal preparation plant areas (Priority 2); Outfalls 18R, 053 and 058 receive surface water drainage from active mine areas (Priority 3); and Outfall 03R receives surface water drainage from reclamation areas (Priority 4). Sample locations are shown on Exhibit 1 (Map 4E1). The watershed, receiving stream, and source water/priority classification for each outfall are found below in Table 1.

Watershed/ Receiving Stream	Permit #	Priority 1. Coal refuse pile	Priority 2. Coal preparation plant & associated areas (includes refuse disposal areas.)	Priority 3. Controlled surface mine drainage areas	Priority 4. Reclamation areas
Busseron Creek / Buttermilk Creek	S-256	**NA**			**03R**
Busseron Creek / Middle Fork Creek	S-256-1	**NA**	**044**		
Black Creek / Unnamed Tributary	S-256-3	**NA**		**18R**	
Black Creek / Spencer Creek	S-256-2	**NA**	**062**		
Indian Creek / Pollard Ditch	S-256-4	**NA**		**053**	
Maria Creek / Unnamed Tributary	S-256-4	**NA**		**058**	

Table 1. Sample Locations Based on EPA Priority System

Sample Requirements

Effluent samples will be collected from each of the above listed outfalls twice a month for a total of four months. Sample collection will be dependent on the discharge condition, with one sample collected under base flow conditions and the other sample collected under precipitation conditions. Effluent samples will be analyzed for the following analytes per discussion with EPA:

1. Cations: calcium, magnesium, sodium and potassium

2. Anions: chloride, sulfate and bicarbonate

3. Metals (total and dissolved): aluminum, cadmium, chromium, iron, manganese, mercury*, selenium*, vanadium, zinc, antimony, arsenic, beryllium, copper, lead, nickel, silver and thallium (* low level method)

4. Additional sampling parameters: pH (field), total dissolved solids (lab), specific conductance (lab), acidity, alkalinity, hardness and total suspended solids

Analytes include selected cations, anions, total and dissolved metals and additional parameters that will reflect any and all changes in water chemistry associated with mining activities. Samples will be collected by experienced personnel using standard industry practices. All samples will be collected using grab sample techniques, as agreed upon in technical discussions with Janet Pellegrini. Samples will be collected into polyethylene containers, preservatives will be added when required, and the samples will be placed in a cooler for transportation to the lab as required. Samples will be delivered to either McCoy & McCoy Laboratories, Inc. in Madisonville, Kentucky; SGS Mineral Services laboratory in Henderson, Kentucky; Environmental Certification Labs, Inc. in Farmersburg, Indiana or other accredited laboratories as necessary.

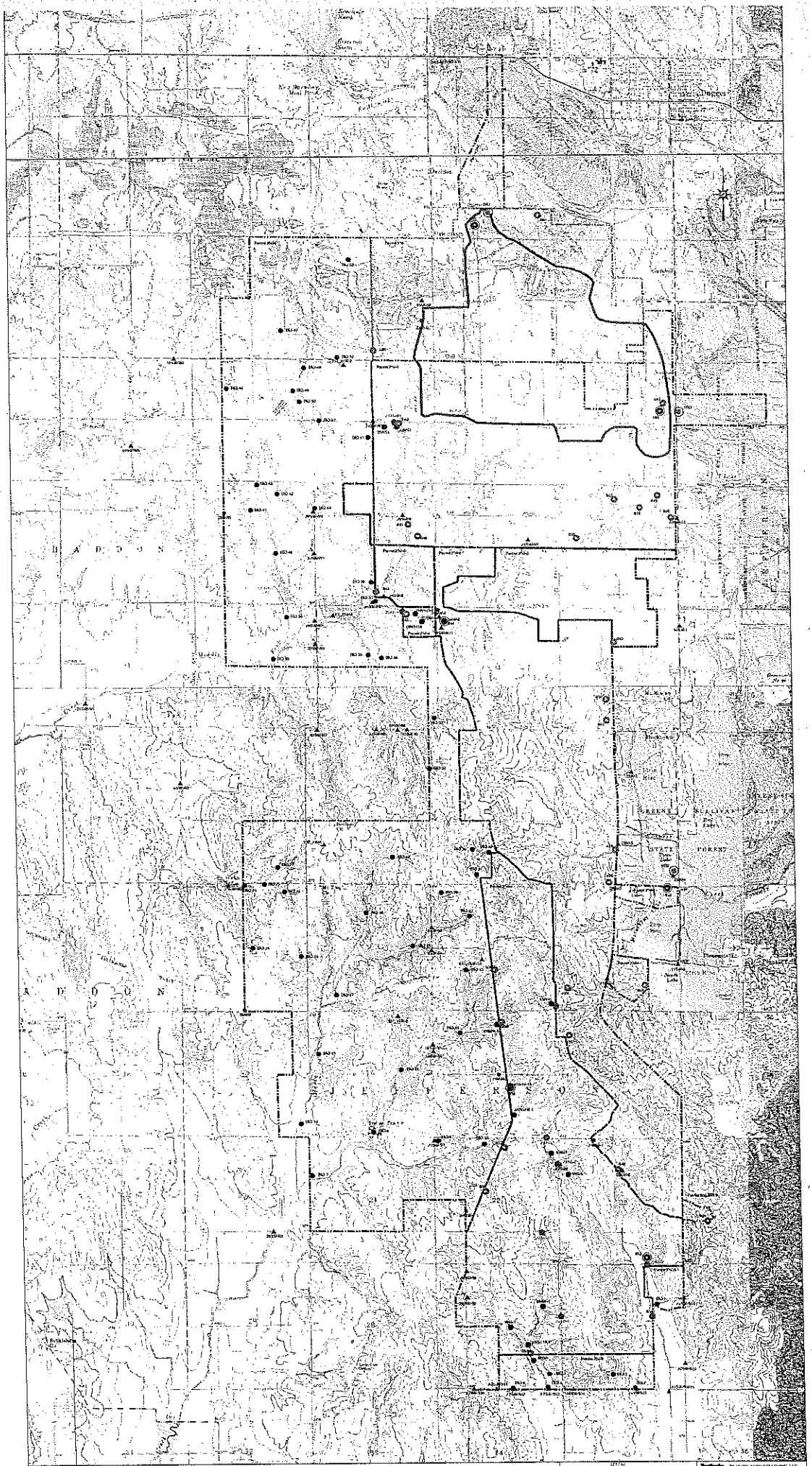
Quality Assurance/Quality Control Measures

QA/QC samples will be collected in accordance with IDEM protocols, as described in IDEM's Field Surveys Section Field Procedure Manual (2002). Specifically, a field duplicate will be collected at a rate of one duplicate for every 10 samples. A field blank will be collected as one blank for every 20 samples collected, or at a minimum one blank for every sampling event. Field documentation will include sample collection records, quality control records, and general field procedures. Laboratory documentation will include chain-of-custody forms, sample shipment information and management records, test methods, and laboratory data sheets.

2. Biological Assessment

Biological monitoring and sampling will be conducted downstream of outfalls 03R, 18R and 062 (Map 4E1). One sample will be collected at each location during the period of effluent sampling. Biological evaluation methods will include macroinvertebrate and fish sampling as well as stream physical habitat evaluation. Macroinvertebrate monitoring will follow the modified EPA Benthic Macroinvertebrate Protocol designed by IDEM and detailed in Multi-Habitat Macroinvertebrate Collection Procedure. Fish sampling will follow the EPA fish sampling protocol modified by IDEM in Summary of Protocols: Probability Based Site Assessment. Stream physical habitat evaluation will follow the EPA RBP II physical habitat evaluation method outlined by the EPA. Aquatic assemblages will be analyzed using the IDEM Biological Studies Section mIBI and fIBI scores. Bench notes and photographic evidence for each sample location will be submitted with the report.

APPENDIX A – EXHIBIT 1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APPENDIX A

Appendix A

EFFLUENT SAMPLING/BIOMONITORING ASSESSMENT PLAN

Pursuant to the Clean Water Act Section 308 Request for Information, dated March 22, 2012, Peabody Midwest Mining, LLC ("Peabody") has developed this Effluent Sampling/Biomonitoring Assessment Plan (the "Plan") for further monitoring, assessments and other studies in waters in and around the Bear Run Mine, including portions of the Busseron Creek, Black Creek, Indian Creek, and Maria Creek watersheds. As set forth herein, Peabody is proposing to conduct comprehensive effluent sampling of wastewater discharges from the Bear Run Mine, including sampling and analysis of chemical constituents far beyond the indicator effluent limits included in Peabody's NPDES permit and otherwise intended and promulgated under 40 CFR Part 434 and Indiana's Coal Mining NPDES permit requirements. Peabody is also proposing to complete additional biological assessment work to supplement the 14 fish, 53 macroinvertebrates, and 2,344 stream physical habitat evaluations already conducted at Bear Run.

1. Effluent Sampling

Sample Locations

Peabody's Bear Run Mine proposes to sample a total of five outfalls reporting to the four watersheds (Black Creek, Busseron Creek, Indian Creek, and Maria Creek) that receive discharge from Bear Run Mine. Representative outfalls were selected based on two criteria: (1) the outfalls receiving watershed and (2) the type of mining related source water (drainage or pumpage) received, as established by the EPA 308 Information Request priority system. Mine drainage status (alkaline or undetermined) was not incorporated into the outfall criteria based on preliminary sampling results that indicate all previously undetermined outfalls are alkaline (a Notice of Intent has been submitted to IDEM to that effect for the remaining unclassified outfalls). The mining related source water priority designations are as follows:

- Coal Refuse: areas where fine coal refuse is exposed to stormwater. Coarse coal refuse is returned to near the bottom of the active pit and covered by spoil. Fine coal refuse is sent to a slurry basin.

- Coal Storage: areas near the preparation plant that include raw coal storage, product coal, and coarse and fine refuse handling facilities.

- Active Mining: areas where topsoil, subsoil, and overburden have been removed. These include locations where soil stockpiles have been or are being established, and where soil stockpiles and overburden is exposed to stormwater events.

- Reclamation: areas where spoil, subsoil, and topsoil have been replaced and vegetation has been established.

The selection process includes at least one representative outfall for each of the four watersheds receiving drainage from the Bear Run Mine affected area. Only one active outfall is present in the Black Creek, Indian Creek, and Maria Creek Watersheds, 062, 053, and 058 respectively. Two outfalls were selected

for the Busseron Creek Watershed, outfall 03R reports to Buttermilk Creek and 044 reports to Middle Fork Creek. None of the active outfalls at the Bear Run Mine receive source water from coal refuse (Priority 1). Outfalls 044 and 062 receive source water from coal storage and coal preparation plant areas (Priority 2); Outfalls 053 and 058 receive surface water drainage from active mine areas (Priority 3); and Outfall 03R receives surface water drainage from reclamation areas (Priority 4). Sample locations are shown on revised Map 4E1. The watershed, receiving stream, and source water/priority classification for each outfall is found in Table 1.

Watershed/ Receiving Stream	Permit #	Priority 1. Coal refuse pile	Priority 2. Coal preparation plant & associated areas (includes refuse disposal areas.)	Priority 3. Controlled surface mine drainage areas	Priority 4. Reclamation areas
Busseron Creek / Buttermilk Creek	S-256	**NA**			**03R**
Busseron Creek / Middle Fork Creek	S-256-1	**NA**	**044**		
Black Creek / Spencer Creek	S-256-2	**NA**	**062**		
Indian Creek / Pollard Ditch	S-256-4	**NA**		**053**	
Maria Creek / Unnamed Tributary	S-256-4	**NA**		**058**	

Table 1. Sample Locations Based on EPA Priority System

Sample Requirements

Effluent samples will be collected from each of the above listed outfalls twice a month for a total of four months. Sample collection will be dependent on the discharge condition, with one sample collected under base flow conditions and the other sample collected under precipitation conditions. Effluent samples will be analyzed for the following analytes which are those required on the Federal NPDES Part 5-C of Form 2C, 1M-13M metals (1.) plus general water quality indicator parameters (2.).

1. Metals: antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, thallium, and zinc.

2. Additional sampling parameters: acidity, alkalinity, chloride, hardness, pH, sulfate, total suspended solids, and total dissolved solids.

Selected analytes include total metals and additional analytes that will reflect any and all changes in water chemistry associated with mining activities. Discussions with the Illinois EPA indicate that EPA Region 5 is satisfied with NPDES related water sampling and analyses at Illinois coal mines and it should be noted that the proposed list of constituents includes those required by Illinois EPA for predischarge background water quality, as required by special condition of the Illinois NPDES permit. Mercury analysis will follow EPA sampling Method 1669 and analytical Method 1631 SE. Samples will be collected by experienced personnel using standard industry practices. All samples will be collected using grab sample techniques, as agreed upon in technical discussions with EPA. Sampling procedures will include facing upstream (i.e. standing downstream) during sample collection and dipping the sample bottle into the stream without touching the stream bottom. Samples will be collected into polyethelyne containers,preservatives will be added when required, and the samples will be placed in a cooler for transportation to the lab as required. Samples will be delivered to McCoy & McCoy (McCoy & McCoy) Laboratories, Inc. located in Madisonville, Kentucky. McCoy & McCoy is a National Environmental Laboratory Program (NELAP) accredited laboratory and certifies that all applicable test results meet the requirements of NELAP. Other accredited laboratories may be used as necessary.

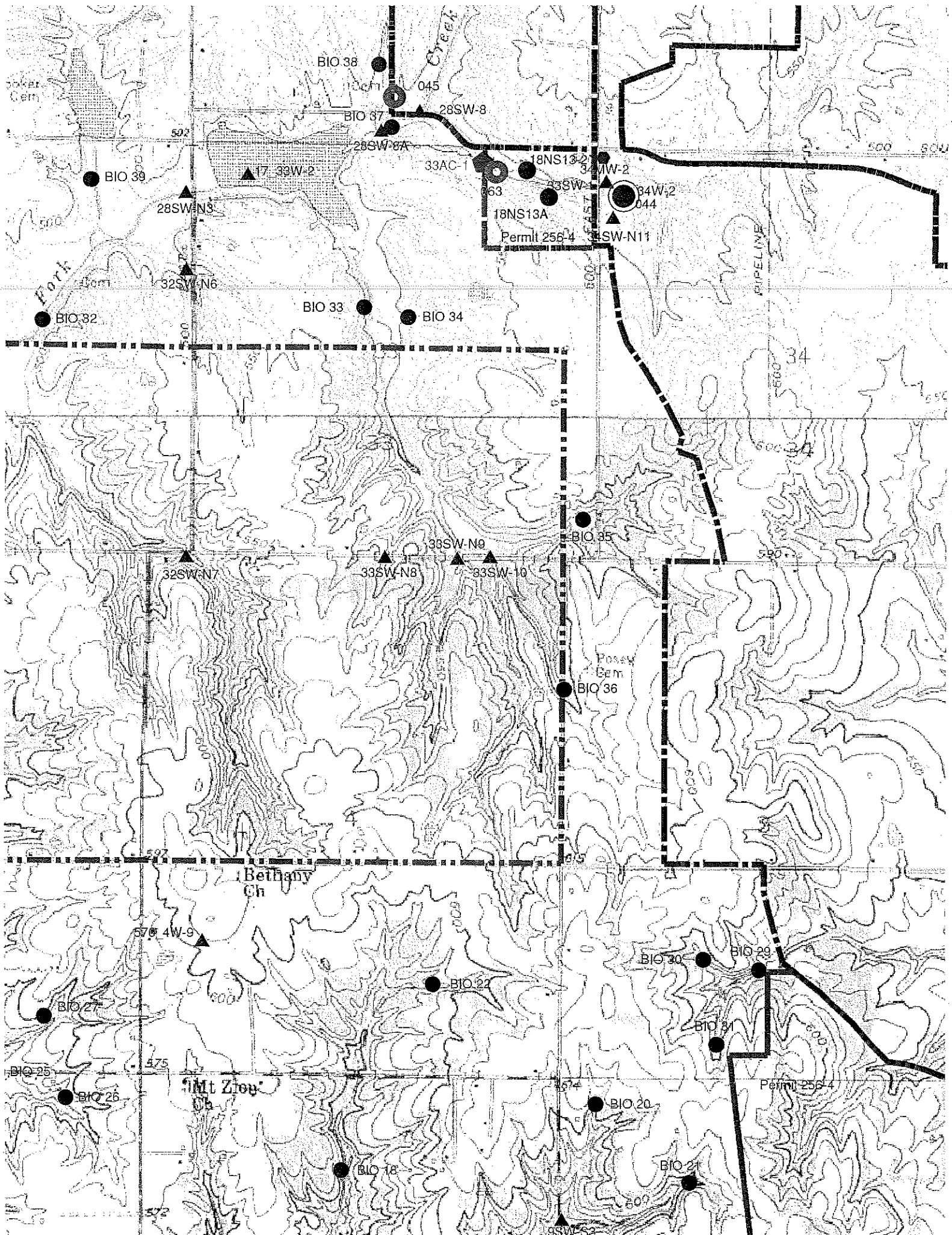
Quality Assurance/Quality Control Measures

QA/QC samples will be collected in accordance with IDEM protocols, as described in IDEM's Field Surveys Section Field Procedure Manual (2002). Specifically, a field duplicate will be collected at a rate of one duplicate for every 10 samples. A field blank will be collected as one blank for every 20 samples collected, or at a minimum one blank for every sampling event. Field documentation will include sample collection records, quality control records, and general field procedures. Laboratory documentation will include chain-of-custody forms, sample shipment information and management records, test methods, and laboratory data sheets.

2. Biological Assessment

Biological monitoring and sampling will be conducted downstream of outfalls 03R and 062 (Map 4E1). One sample will be collected at each location during the period of effluent sampling. Biological evaluation methods will include macroinvertebrate and fish sampling as well as stream physical habitat evaluation. Macroinvertebrate monitoring will follow the modified EPA Benthic Macroinvertebrate Protocol designed by IDEM and detailed in Multi-Habitat Macroinvertebrate Collection Procedure. Fish sampling will follow the EPA fish sampling protocol modified by IDEM in Summary of Protocols: Probability Based Site Assessment. Stream physical habitat evaluation will follow the EPA RBP II physical habitat evaluation method outlined by the EPA. Aquatic assemblages will be analyzed using the IDEM Biological Studies Section mIBI and fIBI scores. Bench notes and photographic evidence for each sample location will be submitted with the report.

APPENDIX A – EXHIBIT 1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APPENDIX C

Peabody ENERGY

Memorandum

TO: John W. Watson
Baker & McKenzie LLP
300 East Randolph Street, Suite 5000
Chicago, IL 60601

DATE: May 23, 2012

FROM: Peabody Midwest Environmental Services

Technical Memorandum on Whole Effluent Toxicity (WET) Testing

Whole Effluent Toxicity (WET) Testing at Midwest mine sites is inappropriate based on the recognition that WET testing is not accurate in the context of mining operations and the streams that are typically present at these operations. Consistent with conditions at Bear Run, many of the water bodies confronted at mine sites in the Illinois Basin are ephemeral or intermittent streams. Because of the sporadic flow, these streams typically do not support obligate aquatic organisms and, accordingly, acute tests are overprotective and unreliable. A chronic WET test in an intermittent stream is overprotective of limited aquatic life with non-continuous wastewater discharges. Daphnia magna and fathead minnows are the only appropriate chronic WET test species when receiving waters exhibit naturally elevated salinity or dissolved solids conditions and discharges are continuous and total suspended solids (TSS) discharge limits are at or above 35 mg/L. For these reasons, EPA WET testing guidance allows for state exemptions from chronic WET testing requirements for zero/low flow conditions (USEPA draft 2004; National Whole Effluent Toxicity (WET) Implementation Guidance Under the NPDES Program, Office of Wastewater Management, EPA Doc. 832-B-04-003 released December 28, 2004). Accordingly WET testing is an inappropriate means to evaluate discharges from Bear Run.

WET test species Ceriodaphnia dubia is not natively present at the site (Bioassessment Conducted for the Bear Run Mine Amendment 5 404 Permit). Not all species show the same resistivity to effluent, both to individual and combined contaminants in effluent, as they differ in the ways they respond to contaminant exposure. How the species sequester or eliminate (depurations) exposure to the contaminant, whether or not the species has a prior history of exposure (acclimation) or adapted sensitivity to the contaminant, and its type of exposure and avoidance capabilities are all important factors to be considered (Chapman, 2000). Differences in tolerance levels can be large even amongst WET test species. Differences in the maximum acceptable toxicant concentrations (range between NOEC and lowest observed effect concentration) of about an order of magnitude have been found between Daphnia magana (56-75%), Daphnia pulex (1-10%), and Ceriodaphnia dubia (25-56%) (Chapman, 2000; Chapman et al., 1994). Similar differences have been found with exposure to individual and inorganic chemicals. Thus the use of a single toxicity value elucidated from a WET test conducted on a single non native species is likely non representative of the native aquatic assemblage and should not be used as a bright line regulation.

The laboratory is a controlled environment that eliminates many of the abiotic (climate, temperature, general environmental quality) and biotic (species, life stage, sex and reproductive status, nutritional and disease status, competition and predation) modifying factors that can impact an organism's response to toxicants. WET tests should not be used as an absolute prediction tool for aquatic species response in natural conditions because they do not incorporate relative sensitivities of the

laboratory versus the field, covariates of toxicity (i.e. additive or synergistic effects), differences of exposure routes (food is an exposure route not considered by WET tests), and often use nonindigenous organisms (Chapman, 2000). Not only can sensitivies differ between laboratory cultures and field collected populations but other factors such as size, age, sexual differences, timing to molt, and seasonal differences can also affect the organism's sensitivities (Chapman, 2000; McGee et al., 1998; Rand, 1995). Whole effluent toxicity levels are generally, but not always, overprotective (Chapman, 2000).

WET tests are typically conducted under conservative exposure conditions, where test organisms are exposed to non-normal and worst case dilution conditions. Non normal conditions can result in pre-stress conditions that increase the organism's sensitivity to other stressors. Changes in temperature or background water quality (for instance low dissolved or suspended solids, which allows toxicants to be more bioavailable throughout the water column) can have significant impacts on toxicity results. For example, hardness can skew the results of the toxicity test and may affect the expression of toxicity in the conduct of the test (i.e. the accuracy of the tests at predicting toxicity) (USEPA 1996). Other parameters such as TDS(hardness, salinity, conductivity), turbidity, DO, pH, micronutrients, and bacteria counts can impact test organisms physiology, sensitivity, and biological response, therefore test variability at all levels can be affected by variability in dilution water quality (USEPA, 2000). This has led the EPA, in its published methods manual , to disqualify some WET results when unusual ionic conditions are present, "Adverse effects of low dissolved oxygen (DO) concentrations, high concentrations of suspended and/or dissolved solids, and extremes of pH, alkalinity, or hardness may mask the presence of toxic substances " (USEPA 2002). Because of the possibility of temporary elevated TDS concentrations at some outfalls, the facts presented here would make the use of WET tests at mines unreasonable. This fact was recognized by EPA Region 5 during the Vermillion Grove study.

WET testing is typically related to worst-case dilution conditions rather than the actual receiving stream dilutions (Chapman, 2000). This is especially true in mining environments with intermittent discharge where the first ephemeral stream capable of supporting aquatic assemblages may be a significant distance downstream of the watershed. In addition effluent composition changes over time and discharges from outfalls are intermittent at mining sites. Effects of intermittent exposure to toxicants can be significantly different from effects related to sustained exposure, which is inherent to WET tests. Several cases have shown toxicity from intermittent exposures can result in less toxicity than sustained exposures (Fisher et al., 1994; Hosmer et al, 1998). Differences between sustained and intermittent exposure were recognized prior to the implementation of WET tests (Ingersoll and Winner 1982; Cairns et al., 1981), but have received limited study. WET tests are conducted in the absence of environmental processes, such as photodegradation, sorption and transformation, biodegradation, hydrolysis, and oxidation and reduction that could ameliorate exposure (toxicity) in the wild. WET tests do not account for avoidance strategies or ecological compensation and regulation mechanisms that often allow for species acclamation or adaptation. For example populations of organisms have been shown to evolve resistance to metal contaminants (Klerks and Weis, 1987; Leppanen et al., 1998). WET testing is inappropriate and expensive, especially considering the how unreliable the results may be.

APPENDIX C – EXHIBIT 1

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U.S. EPA. Short-Term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Water to Freshwater Organisms, Fourth Ed. EPA-821-R-02-013. October, 2002. Section 11.3.2 @ pg. 53

Understanding and Accounting for Method Variability in Whole Effluent Toxicity Applications Under the NPDES Program. EPA-833-R-00-003 (June, 2000); p. D-7 (WET-IX Docket #B.12).